

ABSTRACT

A bidirectional transmitting and receiving device includes a transmitting component with an emission area of a first size, and a receiving component with a receiving area of a second size. The device further includes coupling optics for coupling light between the transmitting component and the receiving component on the one hand, and an optical waveguide to be coupled thereto on the other hand. The coupling optics have two imaging systems that are arranged one behind the other such that the light that is emitted from the transmitting component is imaged by the first imaging system on an intermediate plane on which the receiving component is located, and in the process passes through the receiving component or passes by it at the side. The second imaging system is used to image firstly the light that is emitted by the transmitting component from the intermediate plane onto the end surface of the optical waveguide and, secondly, the light that is emitted by the optical waveguide onto the receiving area of the receiving component.